

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### TRU Incorporated

#### Massachusetts Manufacturing Extension Partnership

#### Staying TRU to their Plan

##### Client Profile:

TRU, Inc., manufactures high performance cables and systems used for military, aerospace, telecom, medical, semiconductor and other commercial industries. The company employs 41 people at its facility in Peabody, Massachusetts.

##### Situation:

TRU realized that they needed to improve manufacturing capability and become more flexible. In order to stay competitive, they chose to distinguish themselves by focusing on their creativity, adding value through performance and providing customers with total engineered solutions. "TRU is a job shop with low quantity, high mix," said company president, Gene O'Neill. "We needed to engage all the employees and reward and compensate them for improving their skills and improving their company," he added. With the support of TRU's management to help drive the process, they partnered with the Massachusetts Manufacturing Extension Partnership (MassMEP), a NIST MEP network affiliate, and began their initiative with a Lean assessment and a Value Stream Map (VSM) of the entire enterprise.

##### Solution:

MassMEP staff delivered Time Wise LE102 training which helped familiarize all TRU employees with the basic Lean terms and tools for a job shop. Charlie Lincicum, Mass MEP project manager, facilitated VSM and Set-Up Reduction Kaizens with employee teams on many areas of the shop floor, and helped them form work cells. Linda Ellis, a colleague from the New Hampshire Manufacturing Extension Partnership (NH MEP), a NIST MEP network affiliate, did an enterprise level process map which assisted TRU in determining that they needed order management. She also helped a team create cell prototypes in assembly. Set-up reduction was done in both assembly and machine areas and 5S (cleaning, sorting and organizing) was done throughout. Re-layout of manufacturing and assembly were major projects coordinated by Mass MEP. The team, which included many front-line employees, developed a layout for these areas which involved getting approval to purchase new equipment. Statistical process control (SPC) was introduced to help TRU re-establish internal quality teams since compliance was low. This resulted in an upwards movement in acceptance levels. Improvements to set up the process, conducting inspections at the source and using more visual signals all had positive effects on quality. All TRU employees participated in the basic Lean training so everyone now has a common language. They are involved on cross functional Kaizen teams, in material review board meetings, and frequent formal and informal meetings with various groups to keep everyone updated.

A Set up Reduction Kaizen was done on the most contentious machine in the facility. The team videotaped the set up and then watched the video to determine the outcome. Findings indicted that one employee was walking over 1,500 feet per set up and that 60 percent of the wasted time during change-over was spent searching for tools and materials. With Mass MEP's assistance, they

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implemented SMED (single minute exchange of dies) and re-located change over tooling. At the end of the two-day event, set up was reduced by 50 percent, and the lessons spread to several machines in the area, which showed similar gains.

Steve Overberg, TRU's Business Process Quality Manager explained, "TRU's plant was laid out in 1963 and machinery and equipment were added wherever they fit and did not optimize flow. Review of the situation indicated that we needed to 5S (to clean and organize and standardize), improve product flow, reduce lead time and reduce the amount of material and people travel around the shop. Employees were moving large, heavy material like cable and brass bars all over the facility and things were hard to find. This wasted time and increased potential for damage and injury." The plant layout suggestions and Lean implementation provided by Mass MEP greatly improved TRU's manufacturing operations.

Additionally, TRU employees suggested that the company move people and like processes together. Design and Process engineers now work together, and Customer Service and Fulfillment work together which has greatly improved communication between departments, resulting in reduced lead times and new initiatives. Organizational boundaries have been removed and customer requests can be expedited.

#### **Results:**

- \* Reduced set-up time by 50 percent.
- \* Reclaimed floor space by 25 percent.
- \* Improved capacity by 40 percent.
- \* Increased on-time delivery from 77 percent to 93 percent.
- \* Improved lead time from 6 weeks to 5 weeks.

#### **Testimonial:**

"TRU Corporation needed to improve manufacturing capability. Many of the semi-conductor manufacturers we supply had begun using supply chains to cut their costs. Lean has helped us create additional capacity and to substantially reduce costs. I thank Mass MEP for all their help."

Gene O'Neill, President